

# **HALF VOLTAGE GENERATOR FOR USE IN SEMICONDUCTOR MEMORY DEVICE**

## **ABSTRACT**

5           A voltage generator for use in a semiconductor memory device provides a stabilized  
output voltage of half a supply voltage  $V_{cc}$ . The voltage generator includes a reference  
voltage generator capable of generating first and second reference voltages. A differential  
amplification drive circuit is capable of generating an output voltage responsive to the first  
and second reference voltages. A resistance/diode reference voltage generator is capable of  
10   generating third and fourth reference voltages. And a pull-up/down drive is capable of  
changing the output voltage responsive to the third and fourth reference voltages. The  
resulting voltage generator provides a stable and accurate output voltage that is resistant to  
output load variations.

15